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ABSTRACT

The development of reading programs by publishers traditionally began with the selection of a qualified team of authors and consultants who then worked with editors in the research, development, and writing of a program. Another approach now emerging begins instead with the identification of learning needs, the specification of outcomes, and the overall design of a program to meet the following needs: instruction, content, and pedagogy. Learning strategies take precedence over teaching strategies. Authors are often not determined until the overall structure of the program is identified and the authors' roles are defined. Field tryouts of representative units or modules are conducted prior to full development of a complete multiyear program. The present model for program development in reading also stresses data on pupil performance and pupil attitudes accumulated in field tests, rather than the recorded impressions of teachers. An increasing number of new programs stress field testing of teacher-training systems to assure that the programs will work as intended. Developmental research and development models in publishing have moved from a concern with the improvement of content to a concern for pupils' performance. (RB)

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HOW PUBLISHERS DEVELOP EFFECTIVE AND USABLE INSTRUCTIONAL MATERIALS IN READING

James R. Squire*

How do publishers ensure that the reading materials they publish are usable and workable in the classroom?

Traditionally they have relied on just about every Research and Development (R&D) resource that has been available to them.

-- They select authors with practical classroom experience and familiarity with classroom applications of research.

-- They engage experienced and successful writers of literature for children, hoping that the writers' demonstrated sensitivity to the interests of children will provide a reservoir of "insights" useful in writing or choosing selections for reading.

-- They rely on the judgment and insights of professional reading editors, the large majority of whom have devoted their careers to teaching and education, and the staffs in some publishing houses are not too unlike the education faculties in many colleges.

-- They depend in initiating new programs on the accumulated background of studies on previously published programs--the elements in programs that worked, the elements that didn't work. It is

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no accident that the majority of publishers who were strong in reading twenty years ago continue to be strong today.

-- They build on small-scale "experimental" projects initiated by individual schools and school systems, attempting to make the innovative dimensions of an isolated experiment usable by teachers everywhere.

-- They call on professional scholars and successful teachers to review manuscripts prior to publication, and today especially they call on qualified and sensitive educational leaders to consult on problems of cultural pluralism and sexism in content and graphics.

-- They check the readability level, the concept density, the interest level, of particular manuscripts prior to publication and they check the authenticity of content.

-- They ask selected groups of children to read and use materials prior to publication to obtain an indication of pupil response.

-- They organize tryouts of especially critical materials prior to publication.

All of these are fairly traditional approaches that have been used for many years in many different ways. All have been customarily applied in prepublication development of reading programs--not as systematically as they might have been but within the financial and logistical limitations imposed on publishers. Thus it has not been uncommon for a major new

program to require six or eight years of conceptualizing, revising, and editing prior to publication. As a result, American schools have had instructional materials superior to those of any schools in the world. But also as a result of the time lag, the materials sometimes seemed not immediately responsive to changing school conditions.

Schools have long held educational publishers accountable for the quality of their products both directly and indirectly, and for no products more than the multiyear elementary school programs designed for teaching basic skills in reading. Established publishers with highly respected imprints have long used every R&D technique that seemed feasible to enhance the quality of their product. It is important, I think, to recognize that historically author accountability and publisher accountability have varied inversely with the educational level of publication. An advanced-level college textbook--by Ben Bloom or Nila Banton Smith--has been regarded as Bloom's book or Smith's, regardless of who published it. And the publisher's normal contribution consisted of little more than copyediting, design, and distribution. But a multiple-year elementary reading program--and to a lesser extent basic secondary and introductory college programs today--has been considered primarily the work of the publisher--of Scott, Foresman, of Ginn and Company, whomever--regardless of how distinguished the authorship may be. In installing the program, it is to the publisher that schools turn for help. And it is the publisher who must respond. This is the way it has been and the way it is--changing only with respect to the basic college courses where increasingly publishers are demonstrating initiative in defining

the need, conceptualizing a program to satisfy the need, and recruiting authors to prepare instructional materials. In no way, of course, does this undervalue the contribution and creativity of authors, most of whom contribute significantly to the programs. But it is important to recognize the enormity of the efforts involved in creating and maintaining a complex and varied program of educational materials and the complexity of the organization and work of the developmental staff involved. Secondary school programs fall somewhere between the elementary and the advanced-level college models, depending on the nature and complexity of each program. A six-year mathematics program would be considered an "Addison-Wesley" or a "Holt." A single textbook on an aspect of American history --say, the Black experience--more as an individual author's work. Because of the complexity of the multiyear programs, the instructional ramifications involved, the size of the developmental staff (up to 30 to 40 contributors and more is not uncommon), the publisher's contribution is far greater, and so is the publisher's investment. Indeed, few major publishers can invest in more than one or two multiple-year major programs in a subject as vast as reading in any single decade. Nor can schools afford to change their use of larger programs with the frequency they can change individual titles. Large programs, once installed, involve a major commitment in our classrooms, and publishers are called upon to provide needed in-service support activities.

These conditions, in part, explain why school publishers approach such major investments cautiously, why they frequently revise and update existing programs, why even with government-sponsored programs carrying

limited copyrights, publishers plan for new editions and services for many years. Truly significant new premises on which to base dramatically different multiyear instructional programs are only rarely identified and accepted sufficiently widely as a result of long-term research in learning or developmental theory. Most progress in the creation of instructional materials occurs slowly and systematically over a period of time.

Critical to the success of the historical development model that I have sketched have been the postpublication studies--the opportunities provided to improve programs as a result of actual use in the classroom --ploughing into revisions the changes and improvements that come as a result of reactions from teachers using the materials; "feedback" to the publisher from classroom visits and interviews with students; results from standardized tests indicating how well or how poorly children using a program appear to be progressing. Indeed one reason, I am certain, why some 100 million Americans learned to read through using one of a small number of basal reading programs during the Forties, Fifties, and into the Sixties was that the major programs were successively and thoroughly revised, again and again, based on studies of actual use. For teachers twenty-five years ago who lacked the formal education in reading instruction that most of our teaching cadres have today, publishers created extensive manuals to provide at least basic instruction. For teachers who sought independent program-related seat work for many children to free them to work individually with others in the classroom, the publishers created consumable workbooks, then duplicating masters,

then language games and special experiences designed to reinforce basic learnings. A major program in reading thus became a developing program --created initially with all of the resources publishers could command --tried, tested, and revised as a result of actual use.

All of these things have been done and are being done--in one way or another--by most of the major publishers engaged in developing and servicing instructional programs in reading. These are the traditional approaches to development and they have served the profession reasonably well.

But the past decade has seen a movement toward much more systematic development as well as efforts to provide materials on a more timely basis--the impact on the one hand of the need for greater efficiency as the result of increased costs and a smaller part of the monies available to schools being spent on instructional materials; on the other hand, of the increased concern with instructional systems in reading, increased knowledge about the systematic development of programs, increased sensitivity to the learning outcomes of the pupils, and heightened awareness not only of the need for quality content in the materials but also for greater assurance of their effectiveness in use.

Whereas the traditional development pattern usually began with the selection of a qualified team of authors and consultants who then worked with editors to conceptualize and write a successful program, the newer approaches begin instead with the identification of the learning need, the specification of outcomes, and the overall design of a program to meet these needs: instruction, content, pedagogy. Well-thought-out

installation and training strategies are mandatory. Here, as in the schools, learning strategies begin to take precedence over teaching strategies. (Not infrequently considerable field testing and study of children and school conditions may be required to satisfy these requirements.) Authors often are not clearly identified until the overall structure of the program is clearly in place, and their roles are far more clearly specified.

Whereas in the traditional development mode, a complete multiyear reading program might be written before any portion of the program is tried out in the classroom, newer approaches involve the field tryout of representative modules or units--attempting to test the effectiveness in microcosm of the approach to learning (the instructional system, if you will) prior to its full development.

Facilitating this development and helping publishers respond more quickly to changing needs is the increasing modularization of programs. Laminated work sheets, cassette tapes, separate duplication masters, a filmstrip or a fiche can be much more quickly revised than a 400-page book and with fewer inventory problems.

Whereas in a traditional development mode, data accumulated from field tryouts would often be restricted to the recorded "impressions" of teachers, the newer approaches stress hard data on pupil performance and pupil attitudes. Clearly, if the quality of materials is to be judged by the end performance of pupils, then ascertaining the nature of these end results and how to achieve them is the critical target. To accomplish such evaluation, special expertise is required. And the

addition of professionally trained psychometricians and evaluation specialists to our editorial divisions has been a phenomenon of recent years.

Whereas in traditional development it was assumed teacher behavior could not easily change (stress was placed on changing the content and on writing manuals and guides on how teachers should utilize pupil materials within traditional modes of instruction), an increasing number of new programs stress field testing of teacher-training systems with each new program (i.e., the teacher materials and approaches needed to assure that the program will work as it was intended). Important also is determining in advance the "installation" services which publishers may need to supply to schools as well as the continued support required for effective use of the materials in the schools.

Developmental R&D in publishing, then, like curriculum development in the school, has moved from almost exclusive concern with "input" (the improvement of content, the improvement of existing modes of instruction) to greater concern with "output" (the pupils' performance) and with the specific factors that influence the performance--the instructional system, the teacher-training system, the methods of diagnosis and evaluation, and of providing needed support to the teacher. The application of such systematic approaches in publishing has enabled us to open up and question the processes being used in program development. It forces publishers on the leading edge of the research technology of the industry to press for providing opportunities for teacher education needed to ensure that programs will work as intended. And it places in teachers' hands tools to better facilitate the learning processes. In the process of thinking through how this can best happen, publishers begin to view instruction as separate from content

and to recognize that good content alone does not assure that pupils will necessarily learn to read.

Not the least of the important developments in educational publishing has been the application of principles of systems management to the management of our own business--the identification of program objectives, the application of critical path scheduling, the assignment of program responsibility for budgets, schedules, and quality to a single manager who is held accountable for the results through postpublication monitoring and evaluation. Such systematic approaches have enabled publishers to apply their resources more efficiently to the solution of educational problems and to respond more quickly to urgent school needs.

Educational publishers are, of course, limited in the resources they can commit to the improvement of instructional materials. Given the present economic structure, investment in R&D together with all other editorial costs tends to be restricted, by industry-wide averages, to not more than 6% of the revenue anticipated from any project. Thus, more can be done with the larger programs that will generate the larger revenues. Present data suggest that from 15% to 30% of the total editorial investment of school publishers is committed to prepublication tryouts, field tests, postpublication analyses, and other development activity associated with validation, learning verification, and similar product improvement activity. And because much of this investment must be made early in the development process, its economic impact is particularly significant.

As my comments clearly indicate, publishing R&D clearly stresses the D of development--rather than the R of research. We need and welcome

independent university-centered and federally supported research efforts basic to improving our instructional materials. We lack, for example, the large-scale resources capable of sustaining field tests involving tens of thousands of children for two- or three-year periods. We need more basic studies into systems of instructional management designed to increase the effectiveness and productivity of our institutions of learning--the kinds of "feedback" information on children's progress in reading, for example, that teachers and supervisors will actually use. Those publishers currently offering such management tools believe from their own studies that most teachers are seeking more information on the nature and pacing of pupil progress and that, given this information, they will use it effectively. But we have major questions about how and when such instructional information is most effectively supplied. Major research of this kind involving cooperative action of the industry as well as researchers in university and development centers could in the long run contribute substantially to improving the effectiveness and workability of all instructional materials.

But this is not to say that publishers will not continue to do what is needed by our schools and to refine or redirect their own development efforts as they are able. So long as 90 percent or more of all instructional materials used in the schools are those developed by the private sector--albeit influenced by authors and consultants, by research, by expressed needs of the schools--publishers must continue to provide more usable materials and more helpful support services. In seeking ways to improve the quality and usability of their products, they will sample the student population with care, identify prototype materials for pre-

publication testing, work closely with schools in postpublication studies designed to improve subsequent editions of their instructional programs. Publishers know how to do more than they are presently doing. But to do much more than is presently underway would substantially increase the overall cost of learning materials to schools at a time when budgets are severaly strained and where school expenditures for instructional materials, as a percent of the total school budget, have been declining for more than a decade.

This abbreviated report of current R&D efforts of American publishers in improving instructional materials in reading can do little more than to suggest that, viewed in historical perspective, the current concern for assurance of "learner verification" or "program validation"--perhaps a more accurate term is "materials verification"--is but an evolutionary step in the history of educational publishing. It is a step toward formalizing and systematizing procedures for reporting to schools what publishers have long attempted to do. But it is a step to which most school publishers are thoroughly committed.

Last January, the Association of American Publishers issued a position statement on "Improving the Quality of Instructional Materials" that I would like to quote in my final comments today: "American publishers of materials for the schools will continue to respond to the educational priorities of the schools as they have for the past 150 years. Out of this continuing partnership between publishers and schools will come stronger, more reliable, and more effective materials. The ultimate guarantee that publishers will continue to produce higher quality materials is the fact that educational publishing is highly competitive. Excellence

is required in product development in order to produce materials that will be accepted by professionally trained educators and used successfully by students."